

Crestron **MPC-M5**

MPC Media Presentation Controller™ M5

Operations & Installation Guide



This document was prepared and written by the Technical Documentation department at:



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Regulatory Compliance

This product is Listed to applicable UL Standards and requirements by Underwriters Laboratories Inc.



As of the date of manufacture, the MPC-M5 has been tested and found to comply with specifications for CE marking and standards per EMC and Radiocommunications Compliance Labelling.



Federal Communications Commission (FCC) Compliance Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following conditions:
(1) This device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.

CAUTION: Changes or modifications not expressly approved by the manufacturer responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

Industry Canada (IC) Compliance Statement

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

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MPC Media Presentation Controller™ M5: MPC-M5

Introduction

Crestron® MPC Media Presentation Controller™ is a family of 2-Series control systems designed for installation in a wall or podium, delivering the industry's best multimedia room control technology in a convenient, space saving design. Perfect for classrooms, meeting rooms, lecture halls and training facilities, the MPC-M5 provides a fully programmable user interface featuring an attractive and intuitive layout of pushbuttons with customizable backlit labeling and wireless remote capability.

Available in white or black, the MPC-M5 is constructed to handle the rigors of everyday use in a corporate or educational environment. An assortment of programmable control ports provides connectivity for audio, video and lighting equipment. The onboard e-Control® Web server provides for complete integration as part of a facility-wide managed control network.

Features and Functions

- Wall mount 2-Series Ethernet control system
- 10 programmable buttons with LED feedback
- Customizable backlit button labels
- Built-in IR receiver
- RS-232, IR, two input and two relay control ports
- 10/100 Ethernet
- PoE network powered
- Onboard e-Control® Web server
- RoomView® and SNMP remote management
- SSL (Secure Sockets Layer) network protection
- Setup via Crestron SystemBuilder™ software
- Rugged construction
- Available in white or black
- 2-gang wall mountable

Control...Simplified

The MPC-M5 is engineered to be easy to integrate and use, yet versatile enough to suit each application perfectly. Its ten “hard key” buttons can be freely programmed for system power, input source selection, transport control, volume adjustment, lighting presets and any other functions. Custom backlit labeling of the buttons is facilitated using an assortment of pre-printed labels or Crestron Engraver software.

Configuring a complete MPC media presentation control solution is simplified using Crestron SystemBuilder™ software, allowing limitless programmability from the award-winning platform that is familiar to every Crestron dealer. The MPC Wizard included in SystemBuilder enables setup of a full-featured presentation system complete with lighting control and RoomView® remote management without requiring any programming. Uploading and updating a facility full of MPC systems is managed easily over the network or individually via the front panel USB port.

Wireless Remote

A range of options is available for adding wireless remote control to the MPC system. Its built-in IR receiver allows use of any Crestron IR wireless touchpanel or handheld remote without requiring a separate receiver or gateway. For greater range and freedom of movement, MPC also supports Crestron’s full line of RF wireless and Wi-Fi based products.

Built-in Control Ports

Through a host of onboard control ports, the MPC-M5 interfaces directly with the video display or and projector, DVD player or TV receiver, projection screen, lift, occupancy sensor and other devices in the room. In addition to high-speed Ethernet, there is a bidirectional RS-232 COM port, an IR/serial port, two relays and two input ports right on the rear panel.

Ethernet and e-Control®2

Standards based 10/100 Ethernet facilitates secure high-speed network connectivity, enabling extensive capabilities for remote system maintenance and control and providing an interface to other Crestron control systems. The onboard Web server provides the foundation for Crestron exclusive e-Control®2 XPanel technology, providing secure IP-based remote control. SSL encryption prevents hackers from breaching the system and accessing its controls.

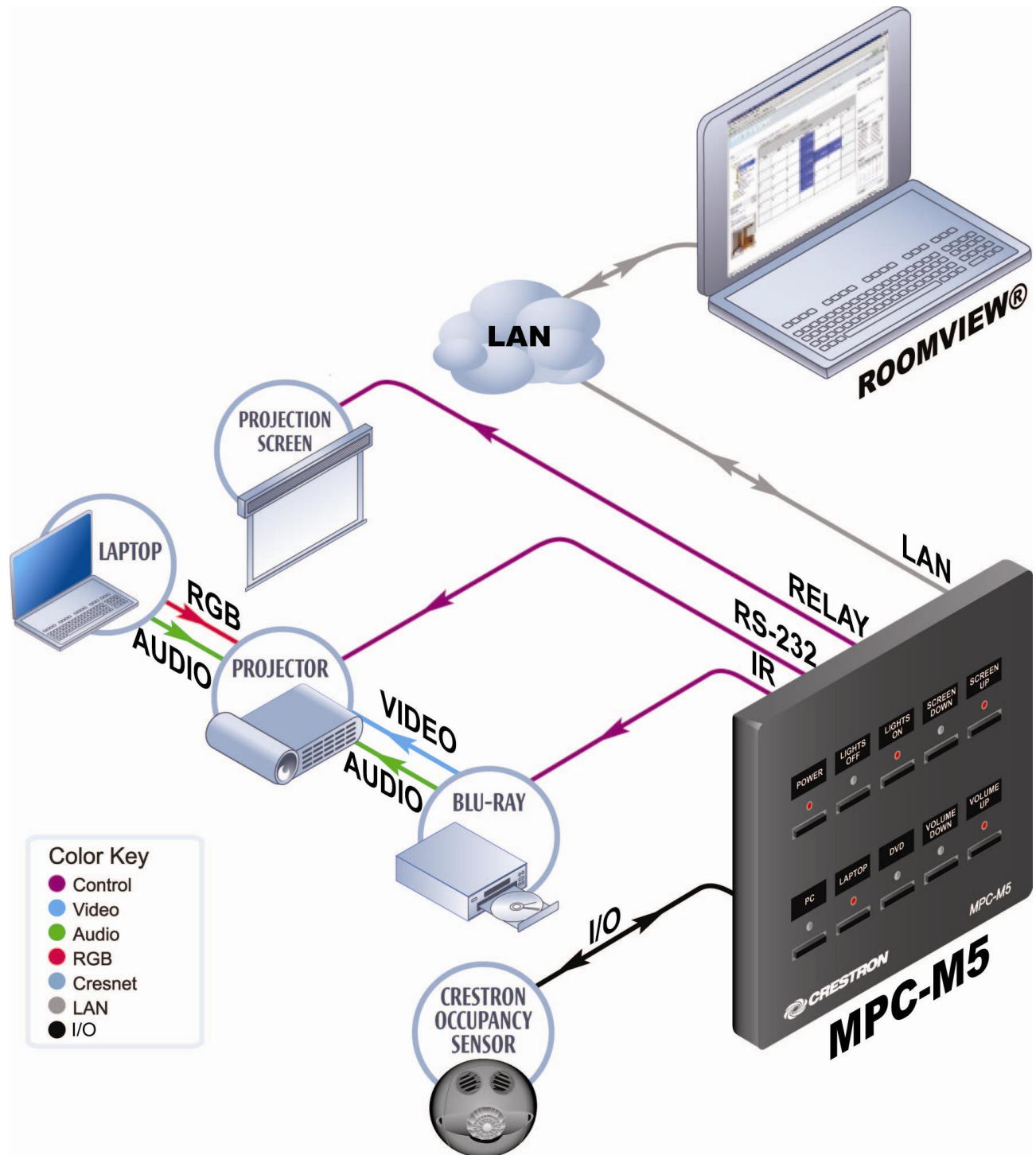
RoomView® and SNMP

The MPC-M5 communicates directly with Crestron exclusive RoomView help desk software, the industry’s most comprehensive facility-wide solution for remote monitoring and asset management. Built-in SNMP support also enables integration with third-party network management software, allowing full control and monitoring from the IT help desk or network operations center in a format that is familiar to IT personnel.

Applications

The following diagram shows an MPC-M5 in a commercial application.

MPC-M5 in a Commercial Application



Specifications

Specifications for the MPC-M5 are listed in the following table.

MPC-M5 Specifications

SPECIFICATION	DETAILS
Processor	
CPU	32-bit Freescale ColdFire® Microprocessor
Memory ¹	
SDRAM	32 MB
NVRAM	256 KB
Flash	8 MB
Operating System	Real-time, preemptive multi-threaded/multitasking kernel FAT32 file system with long names Supports SIMPL™ Windows and SIMPL+®
Ethernet	10BASE-T/100BASE-TX, auto-negotiating, full/half duplex, static IP or DHCP, DNS, SSL, TCP/IP, UDP/IP, CIP, SMTP, SNMP, built-in Web server and e-mail client Supports Crestron e-Control® 2 XPanel and RoomView applications, IEEE 802.3af compliant
IR Receiver	
Reception Frequency	36 to 38 kHz IR
Formats	Crestron format, RC5
Range	Up to 50 feet (15 meters) line of sight typical, dependent upon angle, obstructions, IR interference and IR remote signal strength
Power Requirements	
Power over Ethernet	IEEE 802.3af Class 2 PoE powered device
Default Net ID	02
Minimum 2-Series Control System Update File ^{2, 3}	Version 4.001.1017 or later
Environmental	
Temperature	32° to 104° F (0° to 40° C)
Humidity	10% to 90% RH (non-condensing)
Heat Dissipation	14 BTU/Hr
Enclosure	
Faceplate	Plastic, black or white, with label overlay
Chassis	Plastic with steel mounting plate
Mounting	Requires 2-gang plaster ring or electrical box, ≥2.5 in (64 mm) deep recommended
Dimensions	
Height	4.50 in (115 mm)
Width	6.10 in (155 mm)
Depth	1.94 in (50 mm)
Weight	15 oz (424 g)

(Continued on following page)

MPC-M5 Specifications (Continued)

SPECIFICATION	DETAILS
Available Models	
MPC-M5-B-T	MPC Media Presentation Controller M5, black
MPC-M5-W	MPC Media Presentation Controller M5, white
Available Accessories	
CEN-SW-POE-5	5-Port PoE Switch
CNSP-XX	Custom Serial Interface Cable
GLS Series	Crestron Green Light® Occupancy Sensors
IRP2	IR Emitter Probe
MP/MPC/IPAC_FRONT_LABEL [BLANK, ENGRAVED]-B-T	Set of custom engravable backlit labels, white on black
MP/MPC/IPAC_FRONT_LABEL [BLANK, ENGRAVED]-W	Set of custom engravable backlit labels, black on white
MP-WP Series	Media Presentation Wall Plates
PWE-4803RU	PoE Injector

1. The internal time clock is reset after any reboot. If accurate time measurement is required, the MPC-M5 must be synchronized with an external time clock via the SIMPL™ Windows program.
2. The latest software versions can be obtained from the Crestron Web site. Refer to the NOTE following these footnotes.
3. Crestron 2-Series control systems include the AV2 and PRO2. Consult the latest Crestron Product Catalog for a complete list of 2-Series control systems.

NOTE: Crestron software and any files on the Web site are for authorized Crestron dealers and Crestron Authorized Independent Programmers (CAIP) only. New users may be required to register to obtain access to certain areas of the site (including the FTP site).

Physical Description

This section provides information on the connections, controls and indicators available on your MPC-M5.

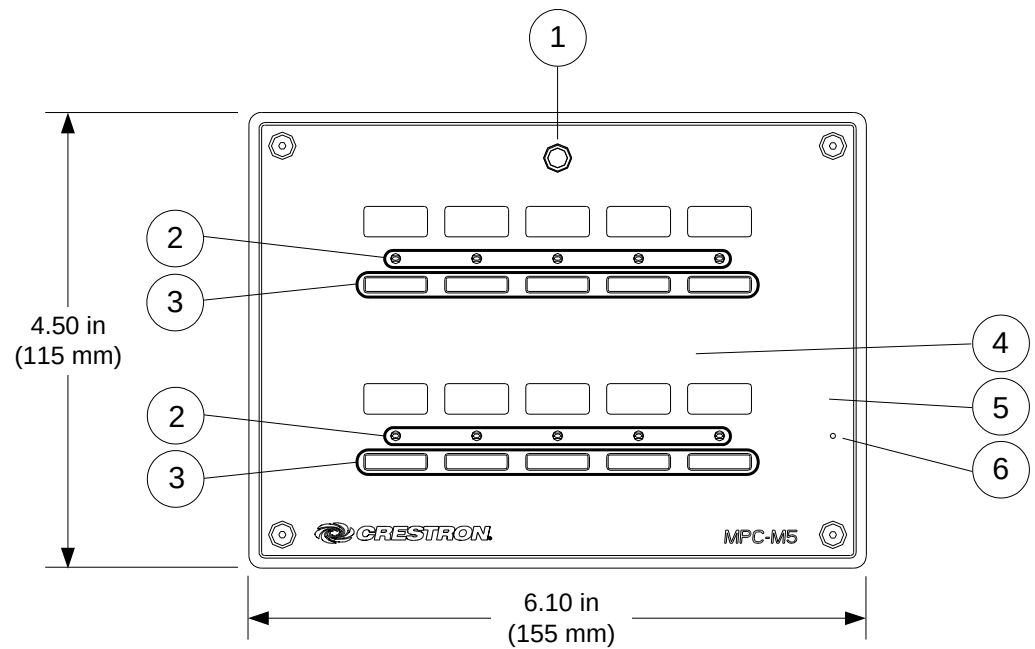
MPC-M5 Physical View (Front)



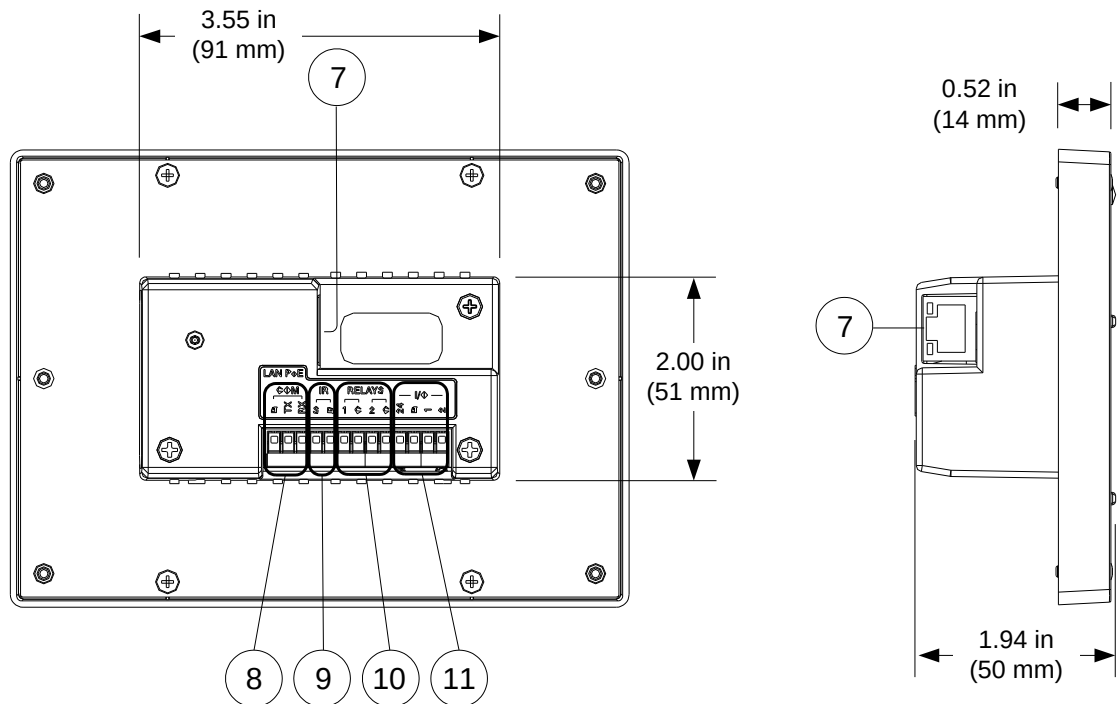
MPC-M5 Physical View (Rear)



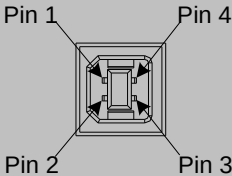
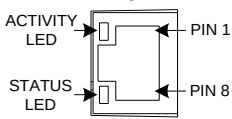
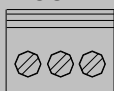
MPC-M5 Overall Dimensions (Front View)



MPC-M5 Overall Dimensions (Rear and Side Views)

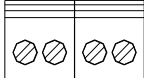


Connectors, Controls & Indicators

#	CONNECTORS, CONTROLS & INDICATORS	DESCRIPTION																				
1	IR RECEIVER	Receives signals from IR transmitter																				
2	FEEDBACK INDICATORS	(10) Programmable red LEDs (one per hard key)																				
3	HARD KEYS	(10) Programmable buttons with backlit labeling																				
4	COMPUTER 	(1) USB Type B female (behind front cover); USB 1.1 computer console port <table><tr><th>PIN</th><th>DESCRIPTION</th></tr><tr><td>1</td><td>+5 VDC</td></tr><tr><td>2</td><td>Data -</td></tr><tr><td>3</td><td>Data +</td></tr><tr><td>4</td><td>Ground</td></tr></table>	PIN	DESCRIPTION	1	+5 VDC	2	Data -	3	Data +	4	Ground										
PIN	DESCRIPTION																					
1	+5 VDC																					
2	Data -																					
3	Data +																					
4	Ground																					
5	SW-R	(1) Recessed miniature pushbutton (behind front cover) for software reset (restarts the SIMPL program)																				
6	HW-R	(1) Recessed miniature pushbutton for hardware reset (reboots the processor)																				
7	LAN PoE ^{1, 2} 	(1) 8-wire RJ-45 with two LED indicators 10/100BASE-T Ethernet port, 802.3af Power over Ethernet compliant Top green LED indicates Ethernet activity Bottom green LED indicates link status <table><tr><th>PIN</th><th>SIGNAL</th><th>PIN</th><th>SIGNAL</th></tr><tr><td>1</td><td>RX +</td><td>5</td><td>N/C</td></tr><tr><td>2</td><td>RX -</td><td>6</td><td>TX -</td></tr><tr><td>3</td><td>TX +</td><td>7</td><td>N/C</td></tr><tr><td>4</td><td>N/C</td><td>8</td><td>N/C</td></tr></table>	PIN	SIGNAL	PIN	SIGNAL	1	RX +	5	N/C	2	RX -	6	TX -	3	TX +	7	N/C	4	N/C	8	N/C
PIN	SIGNAL	PIN	SIGNAL																			
1	RX +	5	N/C																			
2	RX -	6	TX -																			
3	TX +	7	N/C																			
4	N/C	8	N/C																			
8	COM 	(3) Captive screw terminals Bidirectional RS-232 port Up to 115.2 k baud Software handshaking only <table><tr><th>PIN</th><th>DESCRIPTION</th></tr><tr><td>1</td><td>Ground</td></tr><tr><td>2</td><td>TX</td></tr><tr><td>3</td><td>RX</td></tr></table>	PIN	DESCRIPTION	1	Ground	2	TX	3	RX												
PIN	DESCRIPTION																					
1	Ground																					
2	TX																					
3	RX																					
9	IR 	(2) Captive screw terminals IR/Serial output port IR output up to 1.2 MHz 1-way serial TTL/RS-232 (0-5 V) up to 115.2 k baud <table><tr><th>PIN</th><th>DESCRIPTION</th></tr><tr><td>1</td><td>Signal</td></tr><tr><td>2</td><td>Ground</td></tr></table>	PIN	DESCRIPTION	1	Signal	2	Ground														
PIN	DESCRIPTION																					
1	Signal																					
2	Ground																					

(Continued on following page)

Connectors, Controls & Indicators (Continued)

#	CONNECTORS, CONTROLS & INDICATORS	DESCRIPTION										
10	RELAYS 1-2 	(4) Captive screw terminals comprising (2) normally open, isolated relays Rated 1 Amp, 30 Volts AC/DC MOV arc suppression across contacts <table><tr><th>PIN</th><th>DESCRIPTION</th></tr><tr><td>1</td><td>1</td></tr><tr><td>2</td><td>Common</td></tr><tr><td>3</td><td>2</td></tr><tr><td>4</td><td>Common</td></tr></table>	PIN	DESCRIPTION	1	1	2	Common	3	2	4	Common
PIN	DESCRIPTION											
1	1											
2	Common											
3	2											
4	Common											
11	I/O 	(4) Captive screw terminals comprising (2) contact closure or voltage sensing inputs (referenced to ground) with 24 Volt DC power output Input voltage range: 0-26 Volts DC Logic threshold: ≥2.8 Volts DC active/high, ≤1.8 Volts DC inactive/low Input impedance: 10 kΩ @ >5 Volts 1 MΩ @ <5 Volts Pull-up resistor: 2.2 kΩ per input Pull-down resistor: 2.5 kΩ per input, programmable Power output: 2 Watts @ 24 Volts DC, provides operating power for two Crestron GLS Series occupancy sensors ³ <table><tr><th>PIN</th><th>DESCRIPTION</th></tr><tr><td>1</td><td>24</td></tr><tr><td>2</td><td>Ground</td></tr><tr><td>3</td><td>1</td></tr><tr><td>4</td><td>2</td></tr></table>	PIN	DESCRIPTION	1	24	2	Ground	3	1	4	2
PIN	DESCRIPTION											
1	24											
2	Ground											
3	1											
4	2											

1. To determine which is pin 1 on the cable, hold the cable so the end of the eight pin modular jack is facing away from you, with the clip down and copper side up. Pin 1 is on the far left.
2. The pin out table indicates signal connections. DC power applied by Ethernet power sourcing equipment (PSE) can connect to either signal pins or N/C pins.
3. The combined rating of both occupancy sensors should not exceed 80 milliamps.

Setup

Network Wiring

When wiring the Ethernet network, consider the following:

- Use Crestron power supplies for Crestron equipment.
- Provide sufficient power to the system.

CAUTION: Insufficient power can lead to unpredictable results or damage to the equipment. Please use the Crestron Power Calculator to help calculate how much power is needed for the system (www.crestron.com/calculators).

The MPC-M5 can also use high-speed Ethernet for communications between the device and a control system, computer, media server and other IP-based devices.

For information on connecting Ethernet devices in a Crestron system, refer to the latest version of the Crestron e-Control® Reference Guide (Doc. 6052), which is available for download from the Crestron Web site (www.crestron.com/manuals).

Identity Code

The IP ID is set within the MPC-M5's table using Crestron Toolbox™. For information on setting an IP table, refer to the Crestron Toolbox help file. The IP IDs of multiple MPC-M5 devices in the same system must be unique.

When setting the IP ID, consider the following:

- The IP ID of each unit must match an IP ID specified in the SIMPL™ Windows program.
- Each device using IP to communicate with a control system must have a unique IP ID.

Supplied Hardware

The hardware supplied with the MPC-M5 is listed in the following table.

Supplied Hardware for the MPC-M5

DESCRIPTION	PART NUMBER	QUANTITY
Mounting Plate with Ground Wire	4506280	1
Screws, 04-40 x 1/4", Pan, Phil	2007156	2
Screws, 06-32 x 3/4", Combo Head	2009211	4
Screws, 04-40 x 1/2", Btn Head	2021395 or 2021396*	4
Prod Tool, 1/16" Allen Wrench, L-Key	2022867	1

* 2021395 with black models, 2021396 with white models

Installation

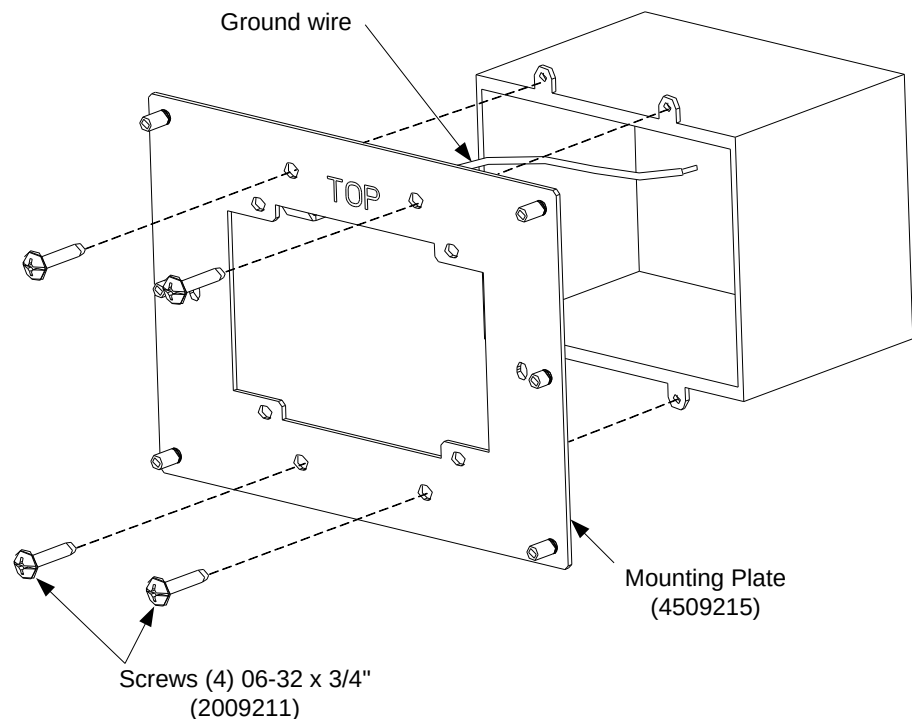
The following material and tools are required for installation of an MPC-M5:

- Standard 2-gang electrical box (not included)
- Philips screwdriver
- 1/16" Allen wrench (included)

After the wiring has been installed and verified, use the following procedure to install the MPC-M5 in a standard, 2-gang electrical box.

1. Turn system power **OFF**.
2. Use the four included 06-32 x 3/4" screws to attach the mounting plate to the electrical box.

Attach the Mounting Plate

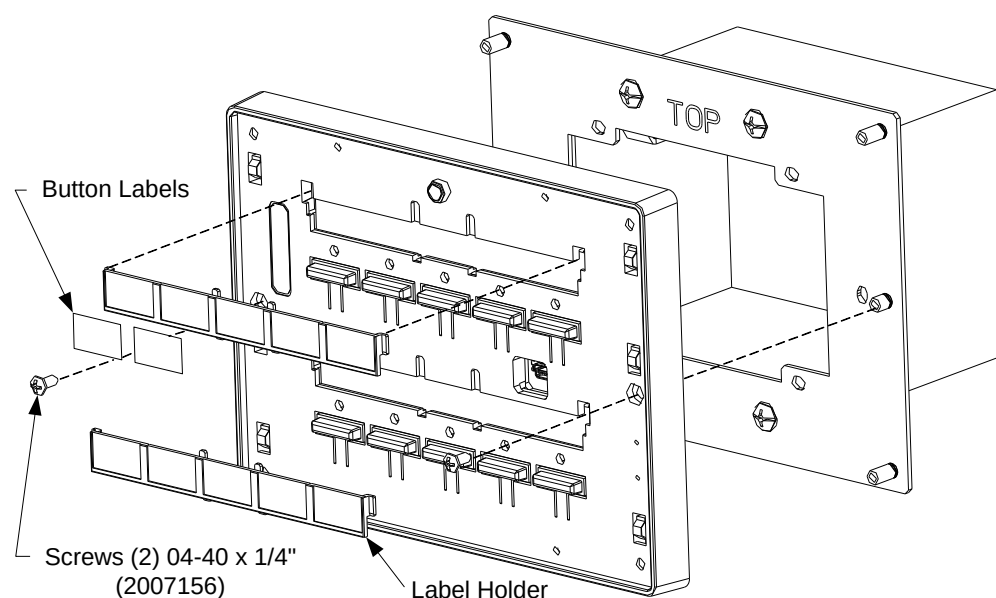


3. The ground wire from the mounting plate must be attached to an earth ground (building steel).

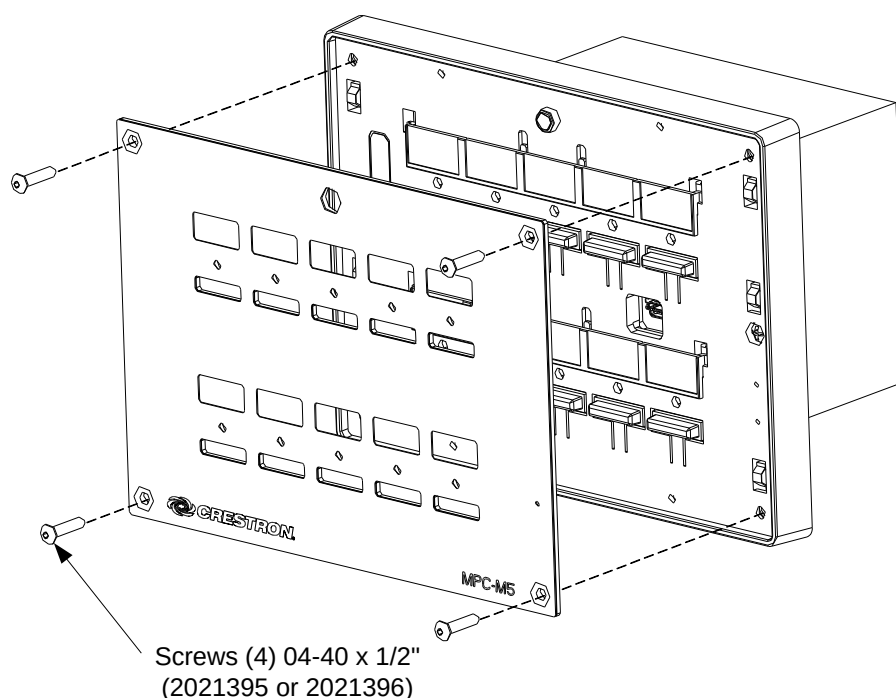
NOTE: Ensure the unit is properly grounded.

4. Attach cables to the rear of the MPC-M5. Refer to "Hardware Hookup" which starts on page 13.
5. Use the two included 04-40 x 1/4" screws to attach the MPC-M5 to the mounting plate.

CAUTION: Excess wire that is pinched between the MPC-M5 and the electrical box could short out. Make sure that all excess wire is completely inside the electrical box and not between the box and the MPC-M5.

Attach the MPC-M5

6. Attach the label holder by placing it over its slots and sliding it downward into position.
7. Attach the included labels in the appropriate positions on the MPC-M5.
8. Perform any necessary programming using the **COMPUTER** (USB) connection prior to attaching the front panel of the MPC-M5. (Programming can also be performed via the **LAN** port.)
9. Use the four included 04-40 x 1/2" screws and the included 1/16" Allen wrench to attach the front panel to the MPC-M5.

Attach the Front Panel

Hardware Hookup

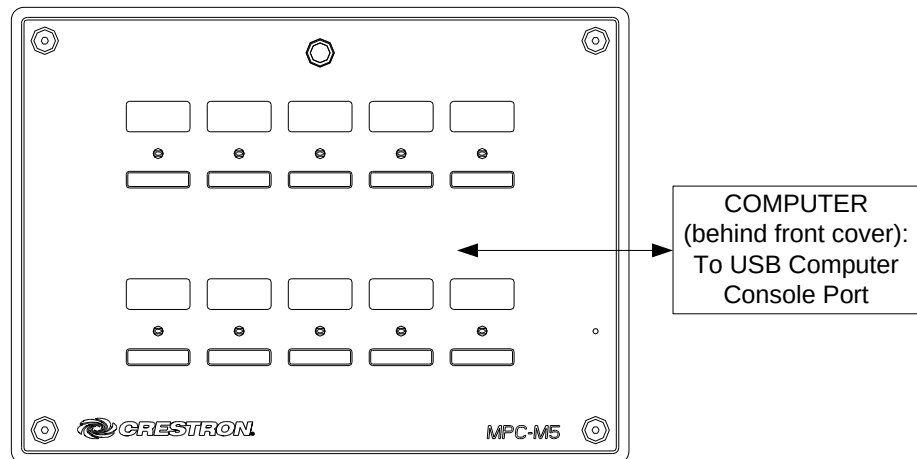
Connect the Device

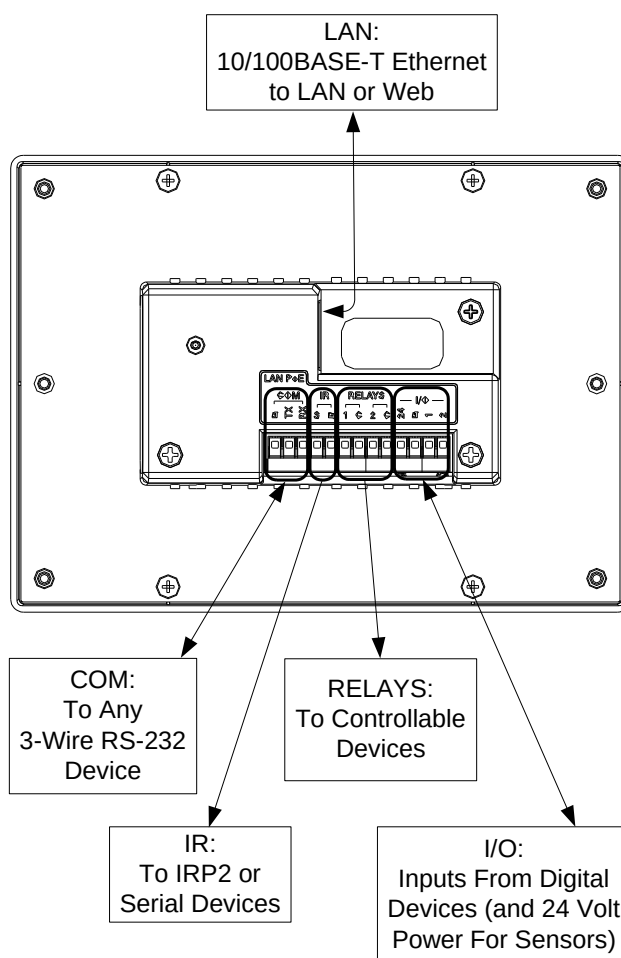
Make the necessary connections as called out in the illustrations that follow. Refer to “Network Wiring” on page 10 before attaching the **LAN PoE** connector. Apply power after all connections have been made.

When making connections to the MPC-M5, use Creston power supplies for Creston equipment.

NOTE: Ensure the unit is properly grounded by connecting the flying ground lead on the mounting plate to an earth ground (building steel).

Hardware Connections for the MPC-M5 (Front View)



Hardware Connections for the MPC-M5 (Rear View)**Input Connections**

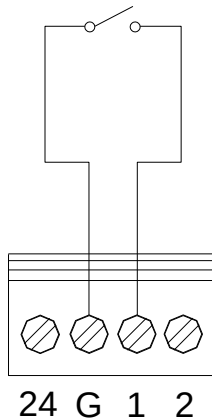
Depending on the application, the MPC-M5 inputs can be wired two ways. Refer to the diagrams on the following page when wiring inputs.

CAUTION: Incorrect wiring may damage the MPC-M5.

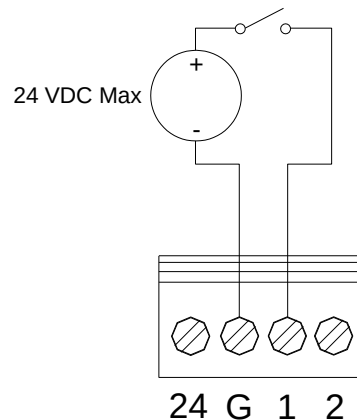
NOTE: The settings for the pull-down resistor are specified in the SIMPL Windows program. For more information, refer to the SIMPL Windows help file.

Input Wiring Diagrams

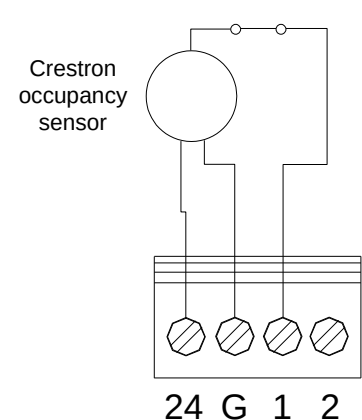
Detecting a contact closure from a switch or relay



Detecting a contact voltage from a switch or relay



Detecting a floating contact voltage (e.g. from a Crestron occupancy sensor)



Pull-down Resistor:
Enabled*

* Detection of an occupancy sensor will also invert the SIMPL program logic in that when the circuit is open (motion detected), the digital signal will be high and when the circuit is closed (no motion detected), the digital signal will be low.

Label the Buttons

Optional custom engraved labels for the MPC-M5 can be ordered separately by using Crestron Engraver software, available from the Crestron Web site (www.crestron.com).

Programming Software

Have a question or comment about Crestron software?

Answers to frequently asked questions (FAQs) can be viewed in the Online Help section of the Crestron Web site. To post a question or view questions you have submitted to Crestron's True Blue Support, log in at <http://support.crestron.com>. First-time users will need to establish a user account.

Earliest Version Software Requirements for the PC

NOTE: Crestron recommends that you use the latest software to take advantage of the most recently released features. The latest software is available from the Crestron Web site (www.crestron.com/software).

NOTE: Crestron software and any files on the Web site are for authorized Crestron dealers and Crestron Authorized Independent Programmers (CAIP) only. New users may be required to register to obtain access to certain areas of the site (including the FTP site).

Crestron has developed an assortment of Windows®-based software tools to develop a Cresnet system. Use Crestron SystemBuilder™ or SIMPL Windows to create a program to control the MPC-M5. For the minimum recommended software versions, visit the Version Tracker page of the Crestron Web site (www.crestron.com/versiontracker).

Programming with Crestron SystemBuilder

The MPC Wizard in Crestron SystemBuilder is the easiest method of programming the MPC-M5. For additional details, download SystemBuilder from the Crestron Web site and examine the extensive help file.

Programming with SIMPL Windows

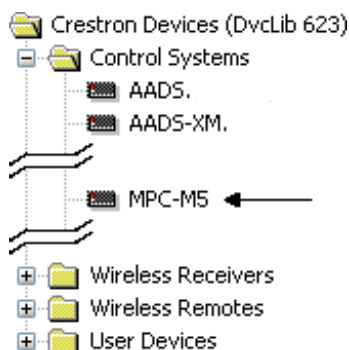
NOTE: While SIMPL Windows can be used to program the MPC-M5, it is recommended to use SystemBuilder for configuring a system.

SIMPL Windows is Crestron's premier software for programming Crestron control systems. It is organized into two separate but equally important "Managers": Configuration and Program.

Configuration Manager

Configuration Manager is the view where programmers "build" a Crestron control system by selecting hardware from the *Device Library*.

To incorporate the MPC-M5 into the system, drag the MPC-M5 from the Control Systems folder of the *Device Library* and drop it in the *System Views*.

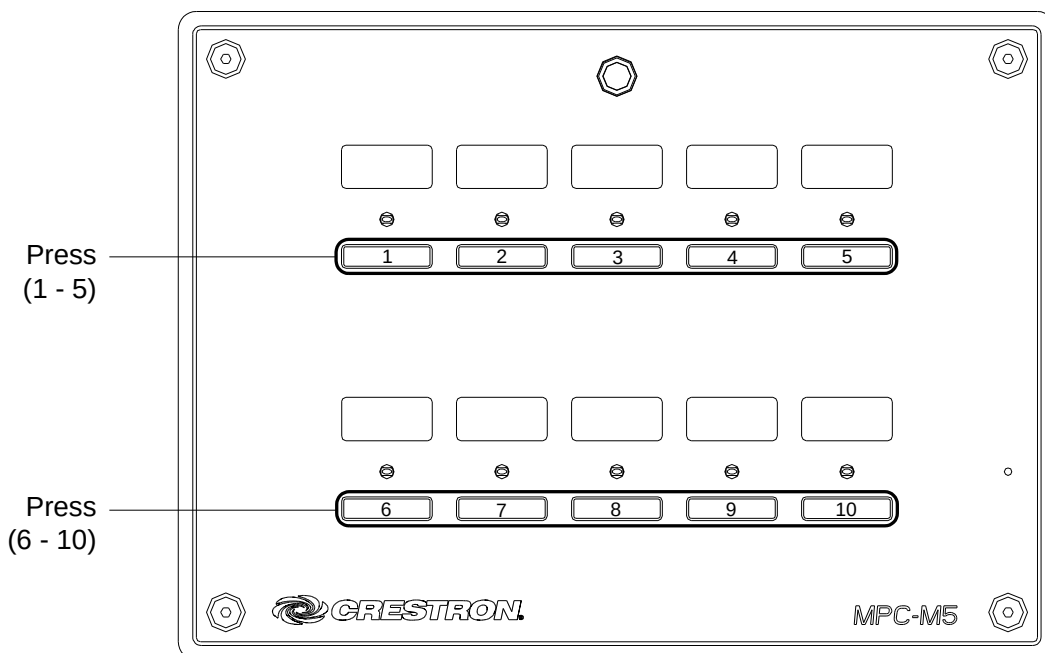
Locating the MPC-M5 in the Device Library**Program Manager**

Program Manager is the view where programmers “program” a Crestron control system by assigning signals to symbols.

The symbol can be viewed by double clicking on the icon or dragging it into *Detail View*. Each signal in the symbol is described in the SIMPL Windows help file (**F1**).

Pushbutton Programming

The 10 “hard key” pushbuttons are programmable and can provide tactile control of many functions such as power, source selection, transport control, audio settings, lighting and more. Refer to the following illustration for their assigned join numbers. A description for each button signal is described in the SIMPL Windows help file (**F1**).

MPC-M5 Pushbutton Layout and Join Assignment**Example Program**

An example program for the MPC-M5 is available from the Crestron Web site (www.crestron.com/exampleprograms).

Uploading and Upgrading

Crestron recommends using the latest programming software and that each device contains the latest firmware to take advantage of the most recently released features. However, before attempting to upload or upgrade it is necessary to establish communication. Once communication has been established, files (for example, programs or firmware) can be transferred to the control system (and/or device). Finally, program checks can be performed (such as changing the device ID or creating an IP table) to ensure proper functioning.

While the next section provides an overview for communication, refer to “Establishing Communications with the Control System” in the latest version of the Crestron 2-Series Control Systems Reference Guide (Doc. 6256) for connection details. If communications cannot be established, refer to “Troubleshooting Communications” in the same guide.

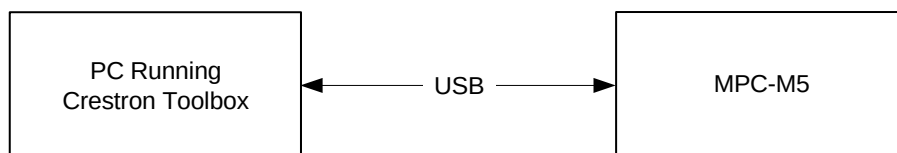
Establishing Communication

Use Crestron Toolbox for communicating with the MPC-M5; refer to the Crestron Toolbox help file for details. There are two methods of communication: USB and TCP/IP.

USB

NOTE: Required for initial setup of Ethernet parameters.

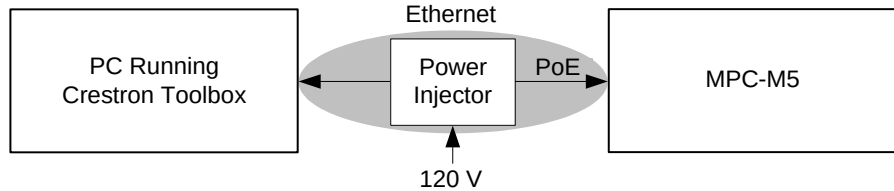
USB Communication



The **COMPUTER** port on the MPC-M5 connects to the USB port on the PC via a Type A to Type B USB cable (not included):

1. Use the Address Book in Crestron Toolbox to create an entry using the expected communication protocol (USB). When multiple USB devices are connected, identify the MPC-M5 by entering (for example) “MPC-M5” in the *Model* textbox, the unit’s serial number in the *Serial* textbox or the unit’s hostname in the *Hostname* textbox. The hostname can be found in the “System Info” window in the section marked *Ethernet* however, communications must be established in order to see this information in the “System Info” window.
2. Display the MPC-M5’s “System Info” window (click the  icon); communications are confirmed when the device information is displayed.

TCP/IP

Ethernet Communications (Without Hub or Router)

The MPC-M5 connects to PC via Ethernet:

1. Establish USB communication between MPC-M5 and PC.
2. Enter the IP address, IP mask and default router of the MPC-M5 via the Crestron Toolbox (**Functions | Ethernet Addressing**); otherwise enable DHCP.

NOTE: Use the Device Discovery Tool in Crestron Toolbox to detect all Ethernet devices on the network and their IP configuration. The tool is available in Toolbox version 1.1.5.143 or later.

3. Confirm Ethernet connections between MPC-M5 and PC. If connecting through a hub or router, use CAT5 straight through cables with 8-pin RJ-45 connectors. Alternatively, use a CAT5 crossover cable to connect the two **LAN** ports directly without using a hub or router (via static IP and a power injector, if no other power is supplied).

NOTE: Some PCs may not require a crossover cable. Check with PC manufacturer.

4. Use the Address Book in Crestron Toolbox to create an entry for the MPC-M5 with the MPC-M5's TCP/IP communication parameters.
5. Display the "System Info" window (click the  icon) and select the MPC-M5 entry.
6. Use Crestron Toolbox to create the MPC-M5 IP table.
 - a. Select **Functions | IP Table Setup**.
 - b. Add, modify or delete entries in the IP table. The MPC-M5 can have only one IP table entry.
 - c. A defined IP table can be saved to a file or sent to the device.
7. When using the MPC-M5 as a "slave", edit the "master" control system's IP table to include an entry for the MPC-M5. The entry should list the MPC-M5's IP ID (specified on the MPC-M5's IP table) and its IP address.

Programs and Firmware

Program or firmware files may be distributed from programmers to installers or from Crestron to dealers. Firmware upgrades are available from the Crestron Web site as new features are developed after product releases. One has the option to upload programs via the programming software or to upload and upgrade via the Crestron Toolbox. For details on uploading and upgrading, refer to the SIMPL Windows help file or the Crestron Toolbox help file.

SIMPL Windows

If a SIMPL Windows program is provided, it can be uploaded to the control system using SIMPL Windows or Crestron Toolbox.

Firmware

Check the Crestron Web site to find the latest firmware. (New users may be required to register to obtain access to certain areas of the site, including the FTP site.)

Upgrade MPC-M5 firmware via Crestron Toolbox.

1. Establish communication with the MPC-M5 and display the “System Info” window.
2. Select **Functions | Firmware...** to upgrade the MPC-M5 firmware.

Problem Solving

Troubleshooting

The following table provides corrective action for possible trouble situations. If further assistance is required, please contact a Crestron customer service representative.

MPC-M5 Troubleshooting

TROUBLE	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Unexpected response from control system.	Network devices are not communicating with the control system.	Use Crestron Toolbox to poll the network. Verify network connection to the device.
Top left LED on front panel is lit but no response from device.	Power has been applied but no program has been loaded.	Use SIMPL Windows or Crestron Toolbox to load the program.
Compilation error RLCMCVT166 & RLCMCVT177.	Poor analog versus serial signal definition in the SIMPL Windows program.	Confirm properly defined signal definition in the program.
System locks up.	Various.	Press SW-R (behind front cover) and HW-R buttons at the same time to bypass program and communicate directly with the processor. Refer to “Troubleshooting Communications” in the latest version of the Crestron 2-Series Control Systems Reference Guide (Doc. 6256) for more details.
A/V system device does not respond.	Used wrong IR port.	Verify that proper IR port is defined.
	Device is not receiving power from a Crestron power source.	Use the provided Crestron power source. Verify connections.
	Device is not receiving sufficient power.	Use the Crestron Power Calculator to help calculate how much power is needed for the system.

NOTE: If communication cannot be established or the control system is locked up, refer to “Troubleshooting Communications” in the latest version of the Crestron 2-Series Control Systems Reference Guide (Doc. 6256).

NOTE: *Passthrough* mode enables Toolbox access to any serial controlled device on the network. This aids in troubleshooting by allowing direct communication between the PC and a network device (effectively “passing through” the MPC-M5). For information pertaining to *Passthrough* mode, refer to “Passthrough Mode” in the latest version of the Crestron 2-Series Control Systems Reference Guide (Doc. 6256).

System Monitor

The System Monitor allows you to reload firmware into the MPC-M5 in the event that you cannot load the firmware in the normal mode.

If the system does not function, perform the following procedure:

1. Disconnect all Crestron USB devices from the computer.
2. On the MPC-M5, press and release the **HW-R** button.
3. Press and release the **SW-R** button three times.
4. Connect to the PC using a USB cable.

NOTE: If your PC does not have the USB driver installed, after connecting the MPC-M5 to the PC using the USB cable, you will see a dialog box on your PC screen asking you to install the USB driver. For instructions on how to install the USB driver, refer to the Crestron Toolbox help file.

5. Open Toolbox and start the Text Console (click the  icon). Then, click on the Address Book icon in the lower left corner of the window to open the “Address Book” window.
6. In the “Address Book” window, click the *Add Entry* button and give the new entry a name (e.g. “System Monitor”).
7. Click the arrow next to the *Device Type* drop-down list. A “Warning” window will open to inform you that this is an advanced feature. Click **Okay**, then select *2-Series Control System Monitor* from the drop-down list. Make sure to choose **USB** as the *Connection Type*, then click **OK**. The following text will appear in the bottom right corner of the “Text Console” window:

```
usb;device 2SeriesCtrlSystemMonitor
```

The following text will appear in Toolbox:

```
MONITOR>
```

8. At the Toolbox prompt, type **erase** and press **Enter**. The following text will appear in Toolbox:

```
Erasing
```

```
->25%->50%->75%->100%
```

```
Done
```

9. Click the  icon and select **Firmware...** to open the “Firmware” window, then click **Browse**.
10. Find and select the correct firmware file (.CUZ or .zip) and click **Open**.
11. In the “Firmware” window, click **Send**. You will see a “Confirmation” window asking if you have selected the right file. Click **OK** and you will see the “File Transfer” window.
12. When file transfer is completed, a window asking you to re-connect appears. Click **Okay**, then close the “Firmware” window and re-connect using the normal Address Book entry.

Reference Documents

The latest version of all documents mentioned within the guide can be obtained from the Crestron Web site (www.crestron.com/manuals). This link will provide a list of product manuals arranged in alphabetical order by model number.

List of Related Reference Documents

DOCUMENT TITLE
2-Series Control Systems Reference Guide
Crestron e-Control Reference Guide

Further Inquiries

If you cannot locate specific information or have questions after reviewing this guide, please take advantage of Crestron's award winning customer service team by calling Crestron at 1-888-CRESTRON [1-888-273-7876].

You can also log onto the online help section of the Crestron Web site (www.crestron.com/onlinehelp) to ask questions about Crestron products. First-time users will need to establish a user account to fully benefit from all available features.

Future Updates

As Crestron improves functions, adds new features and extends the capabilities of the MPC-M5, additional information may be made available as manual updates. These updates are solely electronic and serve as intermediary supplements prior to the release of a complete technical documentation revision.

Check the Crestron Web site periodically for manual update availability and its relevance. Updates are identified as an “Addendum” in the Download column.

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Operations & Installation Guide – DOC. 6955B
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